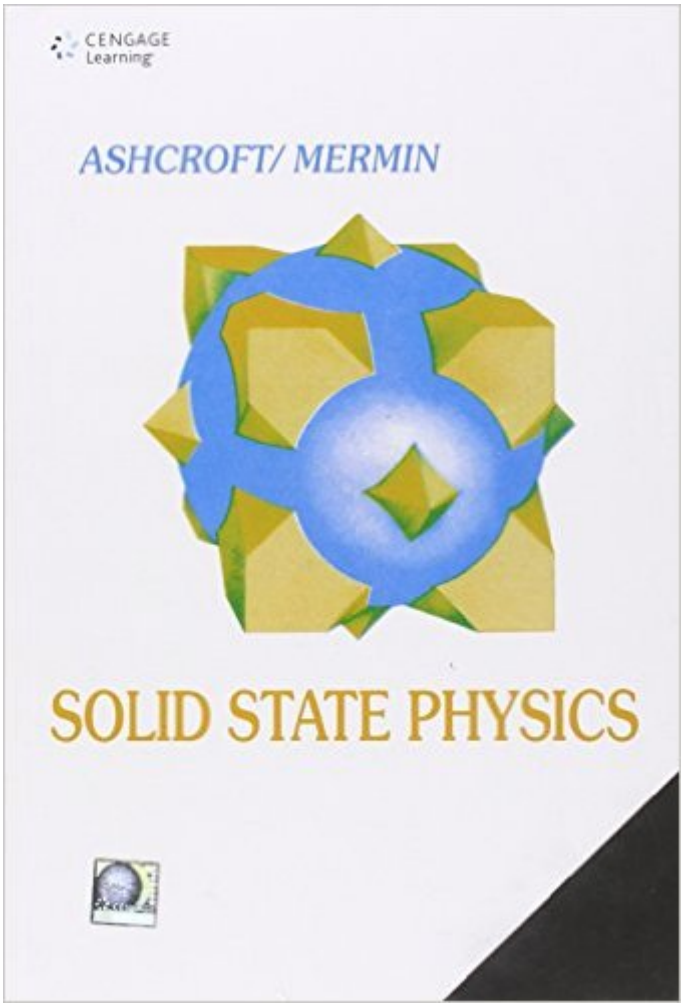
Solid State Physics



Synopsis

This book provides a comprehensive introduction to the field of solid state physics for undergraduate students in physics, chemistry, engineering, and materials science. --This text refers to the Hardcover edition.

Book Information

Paperback: 848 pages

Publisher: Thomson Press (India) Ltd; 1 edition (December 1, 2003)

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Average Customer Review: 4.0 out of 5 starsÂ Â See all reviewsÂ (49 customer reviews)

Best Sellers Rank: #97,479 in Books (See Top 100 in Books) #19 inÂ Books > Science & Math > Physics > Solid-State Physics #23 inÂ Books > Engineering & Transportation > Engineering > Electrical & Electronics > Electronics > Semiconductors #258 inÂ Books > Textbooks > Science & Mathematics > Physics

Customer Reviews

The Ashcroft text is superior to other Solid State texts because of its readbility. It is not over-written like some texts, and its presentation of fundamentals is appropriate for a graduate course in solid state physics. It is not fair to under-rate the book simply because it is "old". Despite having several decades to write a better book, few authors have.There are advanced chapters toward the end of the book that lay the foundations for superconductivity and vibrations in solids, among other things. Like most physics books, the direct application of the physics to real world tools is an afterthought, as it took me 5 years of experience to finally realize that Ashcroft’s treatment of phonons in later chapters could be used to describe the piezoelectric efficiency of acoustic sensors. Perhaps this is because the book is dated, or perhaps it is because many physics texts fail to make the link between consumer technologies and fundamental breakthroughs in understanding, as if it is beneath the moral integrity of physics to worry about the engineering that follows. The work in superconductivity is advanced for a typical solid state course and might be better for a special topics series, as it was when I was a graduate student.Ashcroft will serve as a good primer for most solid state topics, and it is well augmented with Kittel. A lesser book by Ibach and Luth, while it has just a

few positive qualities, will fail a student unless they have Ashcroft on hand. Between Ashcroft and Kittel, a student would have a strong reference library.As a side note, while it seems to be par for the course for most solid state texts, little is done to address the findamentals of crystalline structure that have led to the growth and evolution of the field of materials science.

The Physics And Modeling of Mosfets (International Series on Advances in Solid State Electronics) (International Series on Advances in Solid State Electronics and Technology (Unnumbered)) The Solid State: An Introduction to the Physics of Crystals for Students of Physics, Materials Science, and Engineering (Oxford Physics Series) Mosfet Modeling for VLSI Simulation: Theory And Practice (International Series on Advances in Solid State Electronics) (International Series on Advances in Solid State Electronics and Technology) Solid State Physics Bibliography of Magnetic Materials and Tabulation of Magnetic Transition Temperatures (Solid State Physics Literature Guides) Towards Solid-State Quantum Repeaters: Ultrafast, Coherent Optical Control and Spin-Photon Entanglement in Charged InAs Quantum Dots (Springer Theses) Magnetic Bubble Technology (Springer Series in Solid-State Sciences) Logic Non-Volatile Memory : The NVM Solutions from eMemory (International Series on Advances in Solid State Electronics) Logic Non-Volatile Memory:The NVM Solutions from eMemory (International Series on Advances in Solid State Electronics and Technology) Advanced Mos Devices (Modular Series on Solid State Devices, Vol 7) The PN Junction Diode: Volume II (2nd Edition) (Modular Series on Solid State Dev., Vol 2) Semiconductor Fundamentals Volume Modular (Modular series on solid state devices) Solid State Electronic Devices (5th Edition) Solid State Electronic Devices (6th Edition) Solid-State Electronic Circuits - Volume 1 Fundamentals of Solid-State Electronics: Solution Manual Solid-State Electronic Circuits - Volume 3 Basic Solid-State Electronics, Complete Course (5 Vols. in 1) Fundamentals of Solid State Electronics Optical Interconnects (Synthesis Lectures on Solid-State Materials and Devices)